



# Solve Education!

**Providing  
quality,  
effective  
education  
Part 1**

**- Janine Teo**

Dealing with young learners as they step into the schools after covid

Building competencies for future readiness

Critical Thinking Framework for any programme of study

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# Teacher, you can create Unforgettable Memories

■ **RASHMI MARIAN FURTADO**  
Senior Editor, TeacherTribe.world



Often, when we speak of our time at school, we speak of a memory that could have changed the course of our life or probably nudged us to take a certain decision. For some of us it's a happy memory that fills us with warmth and positivity. For some others, it's an unhappy or painful memory that brings up negative emotions. Experiences we have in our early life can shape the kind of person we become and shape our future too. We would have heard many say, they did not like or never understood a certain subject or a certain extra-curricular activity. While many times it's because of the capability of the person, sometimes it's because of what they experienced in their school. While it's important for a child to experience both good and bad, happiness and sadness, success and failure, it's vital that as teachers we try to leave the students with happy and motivating memories.

I was in a conversation with a teacher very recently and she mentioned some happy memories of Christmas and other festivals, from when she was in school. She spoke of her school very passionately. I was amazed by the positivity it ignited in her. Memories of happy experiences, especially ones that involve social interaction benefit people, as they reshape how we see ourselves for the better. There are several studies in this regard that underline the lasting impact of happy memories. Other than the above-mentioned impact, it's crucial for the students to

feel safe, valued and successful. An environment that creates such experiences for students will nurture lifelong positivity. Although, it's not very easy for teachers to always ensure such an environment because of lack of bandwidth, there are ways through which constant positive reinforcement can be maintained.

**Investing time to get to know your students is one of the easiest ways of reinforcing positivity.** Teachers can do this without much effort, as every teacher interacts with their students on an everyday basis and tracks their progress. In the process, they automatically get to know a lot of details about their students. What we do with the information we have is what needs to be done with care. It's important for the students to see that teachers care and knowing your students will help you understand them better.

**Giving students the freedom to make choices is another way of positively empowering them.** Most of the decisions in a classroom are taken by a teacher. If possible, certain smaller decisions and choices can be left to the students. This gives them a degree of independence along with the feeling that their teacher trusts them. It's difficult to allow students to get social when social distancing is put in place, however it's a good practice. Interacting with peer group, sharing about their schoolwork and activities beyond school promotes a positive classroom environment.

**When it comes to students, a pat on the back goes a long way.** Receiving praise from teachers is of huge value to students. They may not make it obvious, but it is something they treasure. A word of praise and encouragement is a positive reinforcement at any age for a human, but for a school student when their teacher praises them, it matters to them way more than anything else. Memories like these are carried by students for life.

These are a few methods that teachers can easily implement in class. None of them consume extra time or energy for a teacher, making it way easier to employ. Sir Ken Robinson famously said, "We need to be helping our students create a future we will all want to live in." **Dear teachers, you have the power to create unforgettable memories, let's**




**ensure, they are positive.** This new year let's take a step closer towards creating a positive impact and a positive future for our students by giving them happy memories for life.

**"We need to be helping our students create a future we will all want to live in."**

**- Sir Ken Robinson**

Happy New Year!



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 Rashmi Furtado

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*A natural writer, teacher and a passionate content creator, Rashmi has authored the Cu and Rio series and created the Keystones program on Values Education from Greycaps Knowledge Tribe. She is one of the founders of TeacherTribe.world. She is a sought after speaker at educational conferences, facilitator programs and for motivational talks to students at schools across India. She holds a Master's Degree from the prestigious NIT Suratkal where she also taught before joining Greycaps Knowledge Tribe. Rashmi is also a popular quiz host for schools, colleges and large corporate audiences. She has co-hosted the Tata Crucible quiz, Canara Bank National School Quiz and Travel Quest by Thomas Cook.*

# Dealing with young learners as they step into the schools after covid

## ■ G. BALASUBRAMANIAN

*G. Balasubramanian is a doyen of school education in India. He has held several positions of leadership at CBSE, including Director Academics. He was the brain behind the introduction of several innovations at CBSE, which included frontline curriculum, communicative approach to language teaching, Information Technology, alternatives to homework, etc. He is also an author, poet and a sought-after speaker at educational conferences world over. This article has been taken from G. Balasubramanian's official website [balaspeaks.in](http://balaspeaks.in)*



The winds of confidence appear to be blowing. Talks are already on, about the possibility of reopening the schools for the primary children after nearly 500 days. The health experts have sent some positive signals for taking considered decisions. Maybe, the actions will follow depending on the local contexts, preparedness and safety of the system and the people who are the stakeholders of the system. The schools have also started feeling the need to get back to normalcy before it is too late. However, in many places, there is a divided opinion among the parents and such opinions are also often biased resultant to personal choices.

When the stage is set for the gateways to open, the school heads might have to take cautious steps, rather doubly cautious, so that none of their decisions or procedures, gravitates criticism. All care has to be taken to ensure that the curiosity of the school leaders to put the system in place in an excessive accelerated mode doesn't backfire but, yields positive and

intended results. For a few months, primary schools need to address the following issues with tact, diplomacy, informality and in a subtle manner.

## 1. Relieving anxiety

Most children coming back to school will experience a sense of novelty in the air they breathe in the school. They would have some mixed feelings soaked in fear, anxiety, doubt, suspicion and solitude. Their long stay at home for several months and the disconnect they have had from institutionalised dynamics and organised activities would give them some anxiety while trying to cope with normalcy. Teachers need to understand, and hence design and implement, some fun-filled exercises which will clear the clouds of anxiety. The time taken by the individual child in restoration to the pre-pandemic levels of behaviour might vary; hence schools or teachers should not expect equity in responses from the young children. Counsellors would do well to offer some anxiety management exercises for the primary children; and to train the teachers to make them a part of the regular learning environment.

## 2. Building confidence

Due to long periods of isolation at home and experiencing loneliness consequent to the social compulsions arising out of covid, the students might be suffering from some latent helplessness,

inadequacy, low self-esteem, self-pity and thus their confidence profile about their competencies might have touched a low ebb. It is important to help them to restore their confidence profiles. Learning inputs that tend to build their confidence, esteem, self-respect and self-organisation have to become integral to their learning content and learning environment. Exercises in confidence building will help both in building personal profiles and social profiles that would neutralise the loss accrued during covid times. This psychological re-engineering would help them to get back to their normal state of self-awareness.

**Exercises in confidence building will help both in building personal profiles and social profiles that would neutralise the loss accrued during covid times.**



### 3. Ensuring continuity

The loss of learning, it appears, is substantial. There are no magic wands to turn the tables overnight and ensure that the learners would learn all they have missed. It would not only take time, but help and well organised and articulated inputs. One cannot leave the gap and start at a different point, as it might have a long-term impact rather than an immediate impact. The argument that they will learn the same over a period of time, of course, is valid; but it will be more of a patch work rather than an integral building exercise. Hence, the schools need to put in place a kind of bridge exercise to cover the cognitive, affective and psycho-motor experiences. This would help ingestion of knowledge for a healthy profile sooner than later. Teams of teachers, in consultation with counsellors, would share their inputs to define the parameters and structure of such inputs, which would be diverse, inter-disciplinary, informal and stress-free.

### 4. Facilitating relationships

Relationships have suffered significantly during the covid times. At home, gloomy scenario arising out of the impact of covid, for reasons of health, finances, loss of work and disruption of normal routines, have made people to reset priorities. Physical separation, isolation and segregation have led to emotional disquiet or emotional blandness among people. Children had several roadblocks in connecting with their peers either due to social distancing procedures or ban on such outdoor experiences. This has negatively impacted shared experiences and learning, empathy, belief structures and created disillusionment in trust systems. Schools will have to work in repositioning such relationships through cognitive and affective domain exercises. These interventions need not be based on curricular objectives, but could also be interwoven with informal methods synergising school time with home time. ■

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# Solve Education!

## Providing quality, effective education

### Part 1

#### **JANINE TEO**

CEO, Solve Education!

*Janine Teo is the CEO of Solve Education!, an education technology not-for-profit with the mission of delivering quality education to everyone, focussing on the BOP (Bottom of Pyramid) demographic. She is the first Asian to receive the International Intellectual Benefits to Society Award by Mensa International.*

*Janine is also an advisor to Asian Development Bank, on Digital Technology for Development, and a fellow of the University of Pennsylvania - Global Social Impact House.*



*Teo believes that education is the key to solve the many challenges we face in the world today, and because of this, she is an avid speaker on topics like education, edtech, gender equality and poverty alleviation.*

*Janine has received multiple recognitions and here are some of them - Ashoka x Google.org Changemaker, Lancome Visionary Award, Great Women of Our Time nominee by Women's Weekly, '51 Most Impactful Social Innovators' by World CSR Day, Women Super Achievers Award by World HRD Congress, Education Leader award by the World Education Congress.*

*In this exclusive interview with TeacherTribe.world, Janine shares her thoughts on global education, changes the education space will see post the pandemic, technology in education and lots more.*

## 1. Tell us about your journey in the education space. How did it all begin?

April 2015 marks a monumental change in my life. Life was glitzy and glamorous. Behind the scenes, it was hard work too: from managing our hotel owners, revenue numbers, key accounts to managing to walk gracefully on high heels and the 'big hairdo' expected of high-society women in Indonesia.

After a hard day's work, I would return home to my empty apartment walking distance from my office, completely exhausted. I was living away from my family and loved ones. It all became a routine. And it hit me –

**Many challenging problems can be solved with well-built technology.**

## » I needed a better reason to get out of bed daily.

Back then, I was an ambitious corporate executive, and I was hungry for career growth. And when I dug deeper into why I was working so hard and why I was so motivated, it boiled down to making my parents proud of me. I felt like I needed more meaning and purpose in my life. I wanted to contribute more to the society and make the world a better place - and there is so much to do!

Now, fast-forward: I started Solve Education!, an education technology organisation to enable people to empower themselves through education. Today, Solve Education! has delivered over 2M lessons globally.

The entrepreneur journey is arduous. However, the people I've met along the way, especially my fantastic team members, have inspired me to be better every day. I've made a lot of genuine friendships with

other people like teachers who are doing their best to make a difference and drive change. This has energised me, and I feel more aligned as a person.

## »» Live your best life with purpose.

**The pandemic has forced a mindset shift and left us with no choice but to get to know and get used to technology.**

What is your purpose in life? This is the question that we all ought to ask ourselves. Once you've decided that, living will never be the same!

## 2. Tell us a little about Solve Education.

Many challenging problems can be solved with well-built technology. The global education gap is no exception. Solve Education! is an education technology organisation that is committed to helping children and youth around the globe receive quality, effective education. Whether these children and youth don't go to school, or the traditional education they do receive is ineffective, we are here to help. Our team is made up of experienced educationists, technologists and business executives. What do we have in common? Our driving passion to close the global education gap, one child at a time.

**For learners:** We hold learning competitions, provide digital scholarship and micro grants opportunities to all learners.

**For teachers:** We support teachers by providing micro grants, learning apps and tools, and digital transformation sessions.

## 3. How do you think education and learning will change in the post COVID era?

This question came up in the last few panels I was invited to speak on,

and it is not surprising as this is indeed something that is in our minds, as we transit from 2021 to 2022. Uncertainty inevitably drives fear. I am here to hopefully provide some sense of optimism and share some exciting opportunities that have arisen out of this two-year-long challenging period. Now, let's dive in.

## »» We will not go back to 'how things were':

The pandemic has forced a mindset shift and left us with no choice but to get to know and get used to technology. How we live, interact and experience things have changed, and because through technology, many things have become more efficient, less costly to implement and more convenient. It is improbable that things would go back to '100% how they were'.

I heard from some teachers I've interacted with, who were hoping for things to go back to 'normal'. My message to everyone is- We will not go back to 'how things were', and the ones who dare to embrace changes and reinvent themselves are the ones who would thrive and be successful in the new normal.

## »» Remote learning/working = opportunities unlocked:

Remote work complimented by remote learning unlocks the world of opportunities for everyone. Youth and adults in developing countries can now access learning materials and courses to upskill themselves. After that, they can apply for remote jobs that allow them to work from their villages/hometowns.

**We will not go back to 'how things were', and the ones who dare to embrace changes and reinvent themselves are the ones who would thrive and be successful in the new normal.**

The ability to be plugged into the global economy is now within reach. The next billion users will be coming online over the next few years, and they can improve their lives by being part of the future workforce. Solve Education!'s vision is that resources and opportunities can be equitably distributed.

## »» Teachers: How do we equip ourselves and our students/learners/kids?

- Take action to reinvention yourselves because the world needs you! There are also many online platforms to up-skill like Coursera, Udemy, Udacity, etc.
- Sign up for digital literacy courses, like Solve Education!'s digital transformation sessions. Write to us quoting "TeachersTribe x SE!" to sign up for free.
- Apply for Solve Education!'s micro-grant program. We provide devices, internet data, and other support in the form of micro-grants to help teachers and their students learn and be part of the digital movement. ■

Part 2 coming soon...

# Education News

## NCERT to lighten school textbooks

NCERT has taken a decision to lighten the school textbooks for the 2022-23 session. This is to lessen the effort due to the pandemic and academic disruptions, and to address the concern of content overload. The new, lighter textbooks are likely to be ready by end of March, before the new academic year commences in April 2022.

Due to continuous disruptions in academics, NCERT has decided to simplify the syllabi and textbooks across all stages, as it might be a while before the National Curriculum Framework (NCF) for school education comes out.

According to timelines, the content departments (internal and external experts) will submit the simplified syllabus based on which the new textbooks will be designed. After the analysis of the textbook content, the content departments will submit it to the department of curriculum studies and development. After this stage, the textbooks with proposed changes will be sent to the publication division for reprinting.

The Council has set the deadline of February 2022 for the states to complete the district level discussions, followed by development of 5 theme-based position papers by the states and Union Territories. According to reports, the new textbooks based on the NCF 2022 are likely to be introduced from the 2023-24 academic session. ■

विद्यया ऽ मृतमश्नुते



एन सी ई आर टी  
NCERT

Image credit - Wikipedia

# Iron-rich food

## and some of the best sources

### ■ DR. VIVEK BALIGA

Cardiologist and Consultant Physician

*Dr. Vivek Baliga B. is a consultant physician and cardiologist, and director of Baliga Diagnostics in Bengaluru. He is a keen advocate of patient education and loves to blog about all things health related. Learn more about him at [drvivekbaliga.com](http://drvivekbaliga.com).*



Our body needs a complex combination of vitamins, minerals, proteins, carbohydrates and fats to stay healthy. Amongst the minerals, iron is one of the most important ones. This is because iron ensures that we do not develop anaemia, or low haemoglobin levels. Unfortunately, we don't seem to get sufficient iron in our diet. In this article, I will discuss the role of iron for our good health and some of the best, iron-rich food that you should include everyday, if possible.

### »» Iron – Role and types

Iron is a part of haemoglobin. Heme is the iron-rich, red pigment in the blood that carries oxygen to all the vital organs. If you consume a balanced diet with sufficient amount of iron in it, then your haemoglobin levels will usually be normal. Low iron intake can lead to iron deficiency (anaemia), which can make you breathless and tired.

Men require around 10 mg of iron daily, while women need 15 mg daily, as they lose blood and iron during their monthly cycles. Pregnant women



need around 30 mg iron daily during pregnancy and 20 mg daily, after they have delivered.

## »» Who is at risk?

Vegetarian diets have been proven time and again to have numerous health benefits. However, those who are strict vegetarians run the risk of being deficient in vitamin B12 and iron.

**Those who are strict vegetarians run the risk of being deficient in vitamin B12 and iron.**

Vitamin B12 deficiency occurs as a result of poor availability of veggies that are rich in B12. Though plants are rich in iron, vegetarians become iron deficient because the amount of iron absorbed from the digested vegetarian food is minimal. On the other hand, people who consume non-vegetarian food have a low risk of iron deficiency.

## »» Types of dietary iron

The iron we consume in our diet has two forms – ‘non-heme’ iron and ‘heme’ iron. Vegetarian foods contain non-heme iron, as do certain fortified foods. On the other hand, non-vegetarian foods have both heme and non-heme iron in them. Heme iron in animal products is obtained from haemoglobin and myoglobin.

Heme iron has a greater bioavailability when compared to non-heme iron. This means that when either of these iron forms are consumed, heme iron is better absorbed by the digestive tract. Around 14-18% of the iron present in non-vegetarian sources is absorbed by the body, as compared to 5-12% of iron in vegetarian sources. Adding vitamin C to the diet enhances the absorption of iron by the gut.

Now, let's take a look at some of the best sources of iron which you can include in your diet.

## BEST VEGETARIAN SOURCES OF IRON

LEAVES	PER 100 GM SERVING
Curry Leaves	8.7 mg
Mint Leaves	8.6 mg
Beet Greens	5.6 mg
Fenugreek Leaves	5.6 mg
Parsley	5.5 mg
Drumstick Leaves	4.6 mg
Radish Leaves	3.8 mg
Spinach Leaves	2.9 mg
Mustard Leaves	2.8 mg

PULSES	PER 100 GM SERVING
Horse gram	8.2 mg
Soyabean	8.2 mg
Moth Beans	7.9 mg
Bengal Gram (Whole)	6.8 mg
Rajma	6.3 mg
Black gram (Whole)	6.0 mg
Green gram	3.9 mg
Red gram	3.9 mg

NUTS AND FRUITS	PER 100 gm SERVING
Gingelly Seeds	14.9 mg
Pistachios	7.3 mg
Cashews	5.9 mg
Dried Apricots	4.4 mg
Dried Figs	3.2 mg
Almonds	3.6 mg

GRAINS AND CEREALS	PER 100 GM SERVING
Bajra	6.4 mg
Ragi	4.6 mg
Rice flakes	4.5 mg
Whole wheat atta	4.1 mg
Jowar	3.9 mg
Brown Rice	1.02 mg
Tofu	2.8 mg

Taneja, Davendra K., Sanjay K. Rai, and Kapil Yadav. "Evaluation of promotion of iron-rich foods for the prevention of nutritional anemia in India." *Indian Journal of Public Health* 64.3 (2020): 236.

InformedHealth.org [Internet]. Cologne, Germany: Institute for Quality and Efficiency in Health Care (IQWiG); 2006-. How can I get enough iron? 2014 Mar 20 [Updated 2018 Mar 22]. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK279618/>

## »» Iron-rich food – Vegetarian sources

I must admit that I was quite surprised by what I read in literature regarding some of the sources of iron in our diet. For example, spinach leaves are widely regarded as an excellent iron source and are consumed

in abundance in India. Interestingly, while it contains around 2.9 mg per 100 gram serving, it also contains compounds called polyphenols that reduce its bioavailability.

Most fruits and vegetables are poor sources of iron. I have listed some of the best vegetarian sources of iron in a table. I am sure there are plenty of other foods that you are wondering about, whose iron content is not mentioned here. I have kept the list brief.

## »» Iron-rich food – Non-vegetarian sources

Most non-vegetarian foods contain heme iron. Fish such as mussels, tuna, prawns and salmon are iron-rich food choices. Meat such as pork liver (24.4 mg/125 gm serving), beef, pork and mutton are also good sources. Chicken, a popular non-vegetarian food, while high in protein is low in iron, with only 1.3 mg/100 gm serving. Two large, boiled eggs have around 1.68 mg of iron.

As you can see, there are a variety of iron-rich foods you can choose from to give your body the recommended daily dose of iron.

Iron is an important mineral needed to keep your blood levels normal. Choose from a variety of sources that I have mentioned and make sure to include them in your daily diet. ■

# Building competencies for future readiness

## ■ ARTI CHOPRA

Principal, Amity International School,  
Sector 46, Gurugram



*Arti Chopra is a dedicated educationist with over 28 years of experience in the field of education as a teacher, mentor, trainer, planner and skill-developer. She is an alumnus of Lady Shri Ram College, Delhi University and has been associated with leading institutions like Bal Bharti Public School, Delhi; Sawai Man Singh Vidyalaya, Jaipur and Lawrence School, Ooty in her career.*

*Besides her teaching experience, Arti has administrative experience of 15 years as Principal in a few promising schools. Presently, she is the Principal at Amity International School, Sector 46, Gurgaon.*

*"The best way to predict future is to create it" - Abraham Lincoln*

It is a common belief that with the help of the eternal power of thought, dreams can be manifested into reality, and if we see it in today's perspective, it is possible only if the learners are provided competency-based education. The word competency has begun to be used lately, more frequently to provide a wider spectrum to quality education, by including not only knowledge and skills, but also attitude. It is crucial that schools of this millennium respect competency & outcome-based

education for future readiness, and incorporate them in their entire ecosystem- right from students to teachers, parents, school management and the community. The school leaders could reorient themselves to impart life skills, using technology to integrate learnings of head, heart and hand.

An important consideration, while defining skills and competencies relates to the definition of the terms, 'skills' and 'competence' and how they relate to each other. One useful distinction between the two is provided by the OECD's DeSeCo project: *A competence is more than just knowledge or skills. It involves the ability to meet complex demands, by drawing on and mobilising psychosocial resources (including skills and attitudes) in a particular context. For example, the ability to communicate effectively is a competence that may draw on an individual's knowledge of language, practical IT skills and attitudes towards those with whom he or she is communicating* (Rychen & Salganik, 2003).

Competency consists of three interrelated parts: a knowledge component (the understanding part), behavioural components (the overt behavioural part) and a value component (the values, beliefs and attitudes). Teaching and learning strategies need to match the appropriate domains of learning.

The skills and competencies can be grouped into three different categories as follows:

» **ICT functional skills**, that include skills relevant to mastering the use of different ICT applications, like fundamentals, using email software and internet, word processing, spreadsheets, presentation and database.

» **ICT skills for learning**, which include skills that combine both cognitive abilities or higher-order thinking skills with functional skills for

the use and management of ICT applications. In addition to technical skills, associated skills include creativity and analytical skills to apply the right ICT skill to an activity.

»» **21<sup>st</sup> century skills** which bring together skills considered necessary in the knowledge society but where the use of ICT is not a necessary condition. They can be thought of in terms of three parts: information, communication and ethics and social impact.

## **a. Information component -**

Typical skills in this dimension are research and problem-solving skills, as they both involve at some point defining, searching for, evaluating, selecting, organising, analysing, and interpreting information. The learners need to understand to differentiate between information and knowledge.



**b. Communication component -** Effective communication requires information and media literacy. Critical thinking and communication are skills that belong to this sub-dimension. Collaboration and virtual interaction are an example for providing constructive feedback through critical reflection on others' work. The necessary skills required are collaboration/team work, flexibility and adaptability to the changing situations.

**c. Ethics and social impact component -** Due to globalisation, multiculturalism is developing that requires users to refrain from using language, that could be derogatory. The concept of digital and global

citizenship, with understanding and acceptance of other's culture, opinions and ideas need to be a part of school curriculum.

The 21<sup>st</sup>-century schools need to create innovative learning environments; and provide ubiquitous access to technology in classrooms. Some of the necessary attributes required to hone up future ready competency-based teaching are-

- learn how the learners process learning
- integrate the concepts of learning and teaching
- teachers to be facilitators and co-learners
- learners to practice humility, respect, critical thinking and caring at all times
- support acquisition of knowledge, skills and professional behaviors in cognitive, psychomotor, affective learning domains
- learning to be self-driven, learner takes responsibility and is accountable for it
- active feedback system, self-assessment and the attitude to unlearn and relearn
- personalise learning experiences
- motivated to learn – goal oriented ■



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# Critical Thinking Framework for any programme of study

## ■ MINAKSHI BALKRISHNA

Teacher, Educator

*Minakshi Balkrishna has a teaching and administrative experience for over 30 years. She has a vast experience in teaching in international school in India and abroad, and has implemented the International Baccalaureate PYP programme. Her last tenure was at an international school as Executive Director.*



*She has attended workshops at Harvard Graduate School of Education for the Future of Learning programme. She has attended several workshops to get insights of teaching and learning and trickled it into her school domain. She is now an educational consultant for several schools and is also on the advisory committee and board of some schools in Ahmedabad. She is pursuing her PhD in education and management from the Academy of Human Resource, Ahmedabad.*

Critical thinking is, very simply stated, the ability to analyse and evaluate information. Critical thinkers raise vital questions and problems, formulate them clearly, gather and assess relevant information, use abstract ideas, think open-mindedly, and communicate effectively with others. It is an important and necessary skill because it is required in the workplace, it can help you deal with mental and spiritual questions, and it can be used to evaluate people, policies, and institutions. By and large, critical thinking can nurture a good thinker.



In other words, the primary goal of critical thinking is learning to examine assumptions and evidence put forth in support of a position before forming a conclusion.

Critical thinking is an important part of any educational programme for two reasons: it is an essential 'life skill' and it offers an effective and motivating way for students to learn subject matter. An example would be identifying a dilemma raised by a playground incident or by a story that students are reading, and then discussing the pros and cons of possible solutions before reaching a decision. Critical thinking is nurtured by encouraging students to experiment with various methods before deciding the best approach to an estimation problem in mathematics or science, or a design challenge in art or business. It is promoted by helping students recognise the criteria for a well-written paragraph or an effective speech, and then inviting students to critique and then to look for both the strengths and the shortcomings of their own work or that of fellow students before revising their written or oral presentation to make it even better. In short, critical thinking is an orientation or 'way of life' characterised by ongoing deliberation and careful assessment.

The 5-step framework can be implemented in virtually any teaching or training setting to effectively move learners toward critical thinking. This interdisciplinary model, which is built upon existing theory and best practices in cognitive development, effective learning environments, and outcomes-based assessment, provides teachers with a useful framework in which to move students and lecture-based courses toward an active-learning environment. The lecture format of learning is a respected and popular approach to content delivery in higher education. However, it does not encourage active learning or critical thinking on the part of students. Those new to the teaching profession often adopt the lecture format because it is both teacher-centered and comes with a strong academic tradition. Unfortunately, it is very difficult to increase a student's critical thinking skills with the lecture format. Topics are

discussed sequentially rather than critically, and students tend to memorise the material since the lecture method facilitates the delivery of large amounts of information. The student is placed in a passive rather than an active role since the teacher does the talking, the questioning, and, thus, most of the thinking.

There have been many definitions of critical thinking over the years.

**Norris (1985)** theorised that critical thinking is deciding rationally what to or what not to believe.

**Elder and Paul (1994)** suggested that critical thinking is best understood as the ability of thinkers to take charge of their own thinking.

**Harris and Hodges (1995)** declared critical evaluation as the process of arriving at a judgment about the value or impact of a text by examining its quality.

However, the taxonomy offered by Benjamin Bloom, some 50 years ago, offers a straightforward way to classify instructional activities as they advance in difficulty (Bloom, 1956). The lower levels require less thinking skills while the higher levels require more. The theory of critical thinking began primarily with the works of Bloom (1956), who identified six levels within the cognitive domain, each of is after which and before related to a different level of cognitive ability.

**Knowledge** focussed on remembering and reciting information.

**Comprehension** focussed on relating and organising previously learned information.

**Application** focussed on applying information according to a rule or principle in a specific situation.

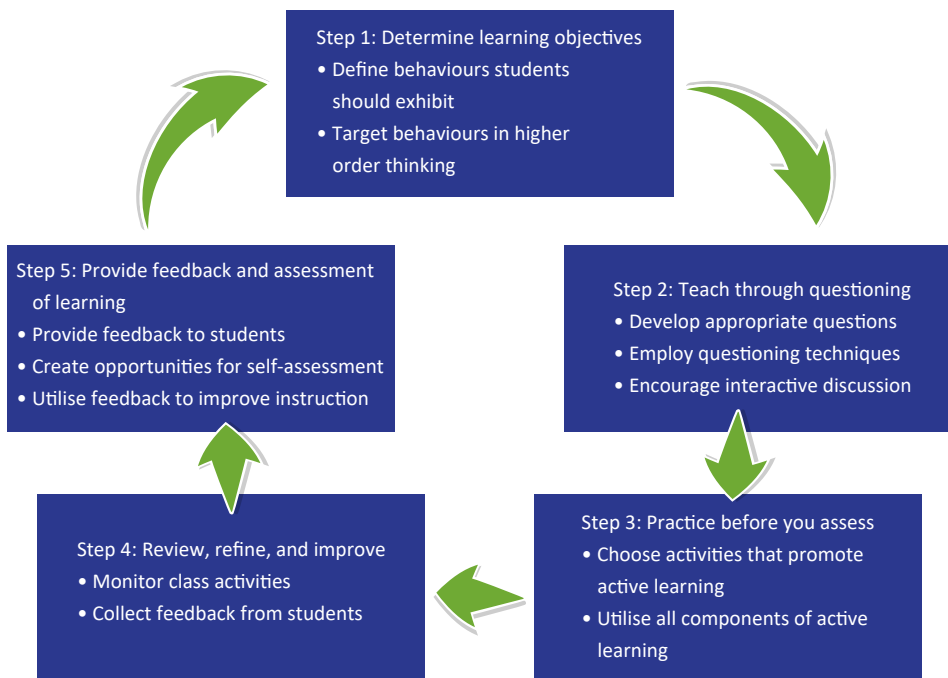
**Analysis** was defined as critical thinking focussed on parts and their functionality in the whole.

**Synthesis** was defined as critical thinking focussed on putting parts together to form a new and original whole.

**Evaluation** was defined as critical thinking focussed upon valuing and making judgments based upon information.

So how can we take this to our classroom? Here is a 5-step framework that can be implemented in any classroom or training setting to help students gain critical thinking skills.

## »» 5-Step Model to Move Students Toward Critical Thinking.



@Duron, Limbach, and Waugh

**Step 1: Determine learning objectives.** To make critical thinking happen, these learning objectives, as well as the activities and

assessments, must include those tied to the higher levels of Bloom's Taxonomy. A well-written objective should include a behaviour that is appropriate for the chosen level of the taxonomy.

Bloom's Knowledge level requires an answer that demonstrates simple recall of facts. Questions at this level could ask students to answer who and what and to describe, state, and list.

- Comprehension requires an answer that demonstrates an understanding of the information. Questions at this level might ask students to summarise, explain, paraphrase, compare, and contrast.
- Application requires an answer that demonstrates an ability to use information, concepts and theories in new situations. Questions at this level may ask students to apply, construct, solve, discover, and show.
- Analysis requires an answer that demonstrates an ability to see patterns and classify information, concepts, and theories into component parts. Questions at this level could ask students to examine, classify, categorise, differentiate, and analyse.
- Synthesis requires an answer that demonstrates an ability to relate knowledge from several areas to create new or original work. Questions at this level might ask students to combine, construct, create, role-play, and suppose.
- Evaluation requires an answer that demonstrates ability to judge evidence based on reasoned argument. Questions at this level may ask students to assess, criticise, recommend, predict, and evaluate.

Thus, a well-written lesson plan should target a specific behaviour, introduce and allow for practice of the desired behaviour, and end with the learner showing the behavioural response. The development of well-written questions will greatly accelerate a learner's movement into critical thinking. ■

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# Understanding Mutual Funds

## ■ AARTI TIBREWALA DAROOKA

*A chartered accountant and MBA, is an entrepreneur and financial literacy advocate. She has over 15 years of combined experience in consulting, advisory and travel industries. A national ranker in CA, Aarti is a published author, who has written a plethora of books for children's financial education and is currently helping build awareness for financial literacy for women through her platform, Sthreedhan.*



The sage of Omaha, Warren Buffet once said, “We don’t have be smarter than the rest; we have to be more disciplined than the rest”. When I first read this, I felt compelled to re-read this line over and over again. So simple and so profound.

What does consistency have to do with the world of money and finance, you may ask? Well, your expenses tend to be consistent. The outflow of money, sometimes faster and sometimes a little slower, tends to be pretty regular too. That’s why you need consistency in your income, right? You need the assurance of that salary hitting your bank account every month to ensure that those recurring bills keep getting paid. But is that enough? Will this take care of you when you are past the age when the salary comes in at the end of each month? Perhaps not.

Many people find it rather hard to invest. Do you too? Do you feel that there isn’t money every month to make ends meet, so where is the scope of parking precious bucks in an account that may or may not give you a good return? Do you feel like you are potentially ruining your present in

the race to secure a rather unpredictable future? Or do you feel like you don't know enough to take a risk of putting your life's savings into someone else's hands?

Investing regularly is something you need to do not just to secure your future when you may not be able to, or simply may not want to work, but also to ensure that as your needs rise, so does your ability to take care of them. The lack of knowledge of how to invest or the inability to do so consistently should not deprive you of a secure life.

**The lack of knowledge of how to invest or the inability to do so consistently should not deprive you of a secure life.**

Whatever your issue, mutual funds are one of the best tools on the market for you. But what are they and how do they work?

**Mutual funds** are basically companies that take money from scores of people who want to invest but don't want to take that responsibility up individually, and put their money collectively into a certain type of security, be it shares, government bonds or any other kind of securities. They are experts at investment and unlike you and me, they do this for a living. So if we don't have the knowledge to buy securities of different types to ensure a good return on our investment or the time to manage and monitor them, we can always opt for a mutual fund.

There is a lot of confusion associated with types of mutual funds. They can be divided based on various criteria – structure, asset class, investment goals and risk appetite.

Based on structure, mutual funds can be open-ended or close-ended. **Open ended mutual funds** are those in which you can invest money at any point in time while **close-ended mutual funds** have a deadline after which you cannot invest in them.

Based on asset class or the type of security in which the money is invested, mutual funds can be **equity funds** (those that invest only in shares on the stock market), **debt funds** (those that invest only in bonds or debt securities) or **hybrid funds** (that invest part of the money in both equity and debt).

Finally, mutual funds can be based on investment goals such as **growth funds** (for those who want to create an asset and get high rate of return in the long run), **ELSS** (those who want to save taxes and also get good returns), **fixed maturity funds** (who want to invest for a particular goal at the end of a particular period of time and **pension funds** (for securing your post-retirement life).

The biggest benefit of putting your money into a mutual fund is two-fold. Firstly, you are putting an expert's job into an expert's hand. Secondly, since it goes out of your bank account on a designated date, the issue of consistency is taken away. You can achieve this by taking the SIP option under the mutual fund of your choice. SIP stands for Systematic Investment Plan. It puts a fixed sum of money at fixed intervals into the given mutual fund, meaning you don't have to remember to do anything. If you choose to keep putting in the money during the period your salary is credited into your account, you'll never have to worry about managing the funds for the investment. It will be taken care of automatically. It will also protect you from the volatility of the market and you will end up getting a good return on your investment in the long run.

The magic of consistency of investment can be summed up in something Albert Einstein once said, "Compound interest is the eighth wonder of the world. He who understands it, earns it; he who doesn't, pays it". ■



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# We Recommend Book

## Happiness at Work

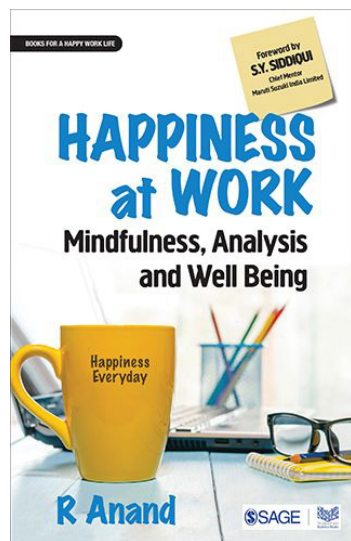
### Mindfulness, Analysis and Well Being

■ By R Anand

Review by Minakshi Balkrishna

The pursuit of happiness has been a quest for man from time immemorial. Man's search for meaning in defining happiness has a huge repository of solutions and remedies. There are many self-help books and videos suggesting a myriad of ways of seeking happiness. However, many a times it is this one book on the shelf that meets your requirements.

R. Anand in his book decodes happiness at work, along with our conscious and unconscious behaviours and actions at work and at home, giving tools for introspection. The writer has explored multiple areas of scientific research for enhancing individual happiness and well-being. The book weaves through the realm of understanding the very nature of the self - what it means to be human. In the journey of our life, if there is a single learning which needs to be strengthened, it is for the leaders to be conscious of the emotional and psychological quotient of themselves and their team. This in turn will bring an impact on happiness and success in their areas of work.





The book unravels the very meaning of well-being. The definition of joy and 'the will to be one's true self.' The Stoics believed that virtue is the path to happiness. Freud felt that to be healthy is the ability to 'love, work and play'. He gives tools to understand the unconscious psyche. On the other hand, Bertrand Russell suggests to embrace a zestful engagement with what the world has to offer, using one's skill and constructing something worthwhile. The mind-body connection is about emotional and psychological health. Body is not merely a lever for the mind but also a medium of expression for the mind. The body communicates what the mind feels and thinks.

The writer discusses the United Nations Report on Happiness which has six variables as the key determinants of happiness and misery. They are income, education, employment, status, relationship with a partner, physical & mental health. Over the years, there has been an explosion of literature and surge on well-being, now regarded as the umbrella concept. Happiness, engagement, positive emotions, feeling secure, fellow mates accepting unconditionally and overcoming one's unique strengths are components of this conception.

The writer embarks on giving plentiful prescriptions like a stress profile, along with analysis of understanding our well-being quotient and suggestions on how to untangle them and improve our well-being.

The underlying fact we all know is trying to understand our sources of stress. Appropriate anecdotes and stories weave and substantiate the external and internal stressors, and how they manifest in our daily life - How did this creep into my life? What can I do about this and create a happy life in the outer and inner realms of my life? The writer gives doses of the 'Happiness Mantra' to introspect and take an objective view of handling these 'stressors'. ■

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# Should we know EVERYTHING?

■ **VARSHA PRASAD**

Editor, TeacherTribe.world



The class was ready. The boys and girls in class were all set to quiz the new teacher in class. They were ready to question her and throw her off guard. They had done a lot of research to come up with difficult questions. The teacher walked into the class and was greeted by the students. After the teacher introduced herself and the lesson she was going to discuss, the students began throwing question after question at her, interrupting the classroom and her flow of thoughts. The teacher immediately realised what the class was up to. She began...

Before we find out what happened next, here is an anecdote.

In one of his TED Talks, Sir Ken Robinson quoted an incident. In an event that he was part of, the Dalai Lama was one of the speakers. During the session, the Dalai Lama was asked a lot of questions from the audience. After one particular question, the Dalai Lama paused for a few moments before he spoke. People in the hall were all quiet, expecting a very interesting response from him. The Dalai Lama leaned forward and said, "I don't know...I have never thought about that before."

This is a very powerful example. The people in the audience were expecting the Dalai Lama to answer all their questions. But they were surprised by the answer, 'I don't know'. And, as Sir Ken Robinson said in his TED Talk - "we all think that we should know everything and,

if we don't know the answer somehow, we are at fault. It takes leadership to tell people you don't know and ask, 'What do you think?'"

**It is okay for teachers to say, 'I don't know', 'I can learn about it', 'Tell me more about it', etc.**

Back to our classroom story, when the students started bombarding the teacher with questions, the teacher began, "Well, I can answer a few of your questions. For a few more, we can have an open discussion where all of us can contribute. And, about the last question, I don't have the answer for that. I will do some research and get back to you. But, if any of you know the answer already, please tell me."

The students were expecting a rattled teacher, who would ask them to stop asking questions and sit down quietly, or someone who would dismiss them for their behaviour. What they got from her was what none of them had anticipated. The class continued to quiz their teacher after this class, but out of curiosity to learn more and interact with the teacher, but not to taunt her.

## »» Learners forever

Teachers put in a lot of effort to make sure students in class are taught everything. They prepare before class, make notes and research on various topics to make the class interesting. Even after all this, there will be times where the teacher's knowledge will be tested. It is okay for teachers to say, 'I don't know', 'I can learn about it', 'Tell me more about it', etc.

Teachers need to be learners forever. Each batch of students that come-by, come with new learning and new knowledge of the world. To stay up to date with them and with what is going on in the world around, learning constantly is essential. This learning can also

happen, by interacting with students. This will help student-teacher bonding, in turn helping students respect their teachers for their humility. Exchange of ideas and asking students for suggestions and opinions will help make them confident about their knowledge.

Alvin Toffler rightly said, “The illiterate of the 21<sup>st</sup> century will not be those who cannot read and write, but those who cannot learn, unlearn and relearn.” Teachers need to keep updating themselves to the new trends. What they had learnt a few years ago may not be applicable now, and what they will learn today might not be applicable tomorrow. So, learning, unlearning and relearning becomes very important. In this process, not knowing something is very natural and the willingness to learn it is crucial.

**The illiterate of the 21<sup>st</sup> century will not be those who cannot read and write, but those who cannot learn, unlearn and relearn.**

**-Alvin Toffler**

This new year, let us learn to impart knowledge. Let us unlearn to take in and accept revised information. And, let us relearn to update and improve ourselves.

Wishing you all a very happy New Year!

**Varsha Prasad**  
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*Varsha Prasad is leading TeacherTribe.world initiative from Greycaps Knowledge Tribe, exclusively for teachers, as its Editor. She is also the Editor of TeacherTribe.world magazine. It is created by Greycaps Knowledge Tribe to celebrate the contributions of our teachers. She has played a vital role in creating many products, which ignite the curiosity of children, including the Global Awareness Program, also known as GAP in schools.*